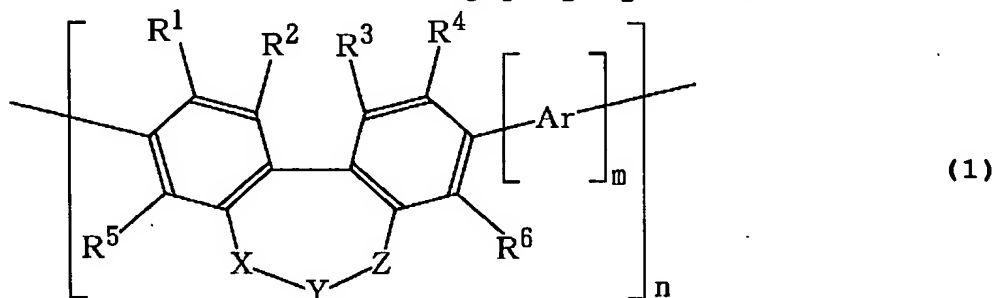


CLAIMS

1. A polymeric fluorescent substance adapted for emission of visible fluorescence in a solid state, said polymeric fluorescent substance comprising at least one type of repeating units represented by chemical formula (1) and having a number average molecular weight of 10^3 to 10^6 as determined using polystyrene as a standard:



wherein

Ar represents an arylene group having 6 to 60 carbon atoms involved in conjugation or a heterocyclic compound group having 4 to 60 carbon atoms involved in conjugation;

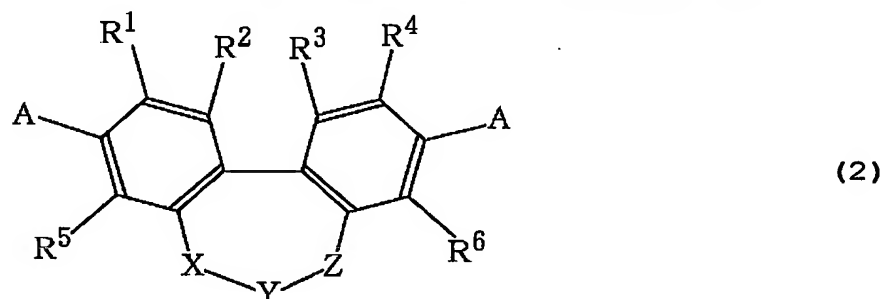
X, Y, and Z represent at least one group selected from the group consisting of an oxygen atom, a sulfur atom, a carbonyl group, a group represented by $-C(R)_2-$, and a group represented by $-NR-$ wherein, when X, Y, and Z contain a substituent R, said substituent R and R^1 to R^6 in chemical formula (1) each independently represent at least one group selected from the group consisting of a hydrogen atom, an alkyl group having 1 to 20 carbon atoms, an alkoxy group having 1 to 20 carbon atoms, an alkylthio group having 1 to 20 carbon atoms, an alkylsilyl group having 1 to 60 carbon atoms, an alkylamino group having 1 to 40 carbon atoms, an aryl group having 6 to 60 carbon atoms, an arylalkyl group having 7 to 60 carbon atoms, an arylalkoxy group having 7 to 60 carbon atoms, an arylalkynyl group having 8 to 60 carbon atoms, an arylamino group having 6 to 60 carbon atoms, a heterocyclic compound group having 4 to

60 carbon atoms, a cyano group, a nitro group, and a halogen atom;

m is 0 (zero) or 1; and

n is a numerical value necessary for meeting the requirement of the number average molecular weight 10^3 to 10^6 as determined using polystyrene as a standard.

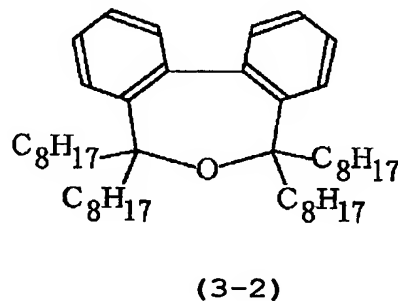
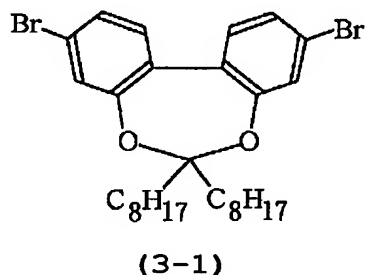
2. A process for producing the polymeric fluorescent substance according to claim 1, comprising the step of polymerizing a monomer represented by formula (2) alone, or polymerizing said monomer represented by formula (2) in combination with an aromatic compound having 6 to 60 carbon atoms involved in conjugation, or with a heterocyclic compound having 4 to 60 carbon atoms involved in conjugation:



wherein

A represents a hydrogen atom or a halogen atom; and
X, Y, Z, and R_1 to R_6 are as defined in formula (1).

3. The process according to claim 2, wherein said monomer represented by formula (2) is a compound represented by formula (3-1) or (3-2):



4. An organic electroluminescent element comprising a pair of opposed electrodes, an anode and a cathode,

and an organic compound layer interposed between said pair of opposed electrodes, said organic compound layer including a layer containing at least one type of polymeric fluorescent substance as defined in claim 1.

5. The organic electroluminescent element according to claim 4, wherein a layer containing an electron transport compound is provided between said cathode and a luminescent layer.

6. The organic electroluminescent element according to claim 4, wherein a layer containing a hole transport compound is provided between said anode and a luminescent layer.

7. The organic electroluminescent element according to claim 4, wherein a layer containing an electron transport compound is provided between said cathode and a luminescent layer and a layer containing a hole transport compound is provided between said anode and said luminescent layer.